

Quick Guide for WINUG

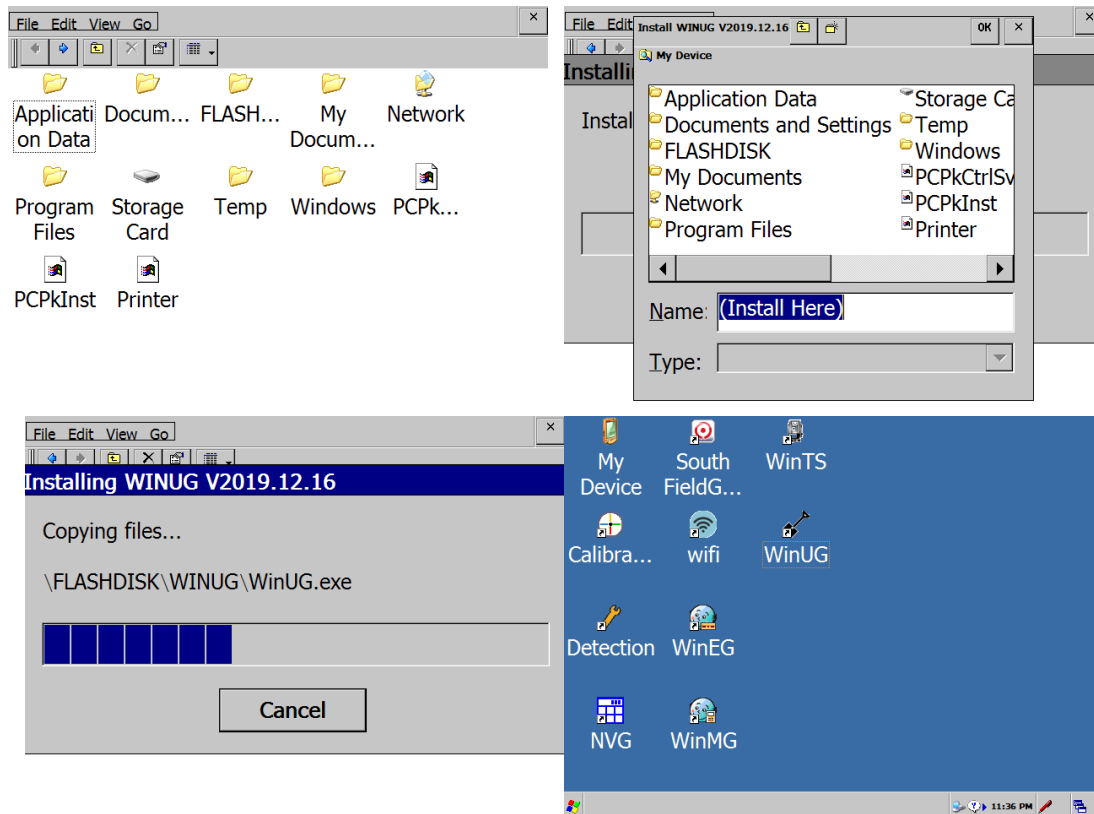
Overview

WinUG is designed for specific demands of underground mining survey. In the mining business, especially in underground mining, there are certain rules of how things must be done in a certain order. WINUG steers the user through the process and makes them more productive.

1. Installation and Registration

1.1 Installation

Copy the WINUG.cab file to SD card. Insert to N70 series TS. Go to My Device-Storage Card, double click the WINUG icon. It will automatically install. Please install it in default folder path.

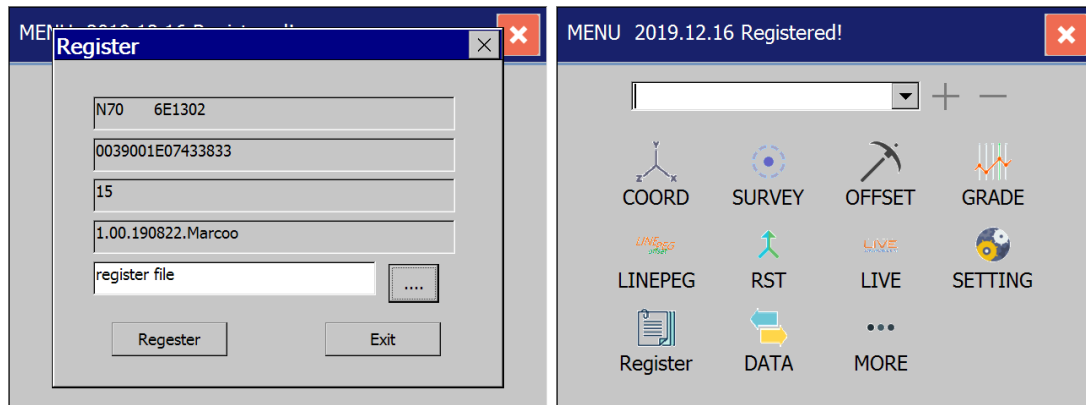


1.2 Registration

Run application, For *WINUG*,:

Before registering WinUG there is a trial period that will allow you to open and use WinUG 15 times with full functionality. after that, it will ask for register

code. if you do not have a registration file. Please contact your local distributor.

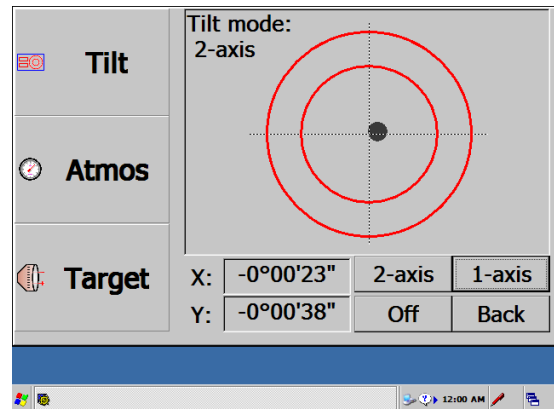


Press the apostrophe button to load the registration file from memory or SD card. Then press Register button. When it is done, it will show you the version and registration status.

2. Basic Survey setting

It is important to configure the correct parameters to make sure all measurement results are accurate. .

Press the **STAR** key to enter the menu as figure shows below.

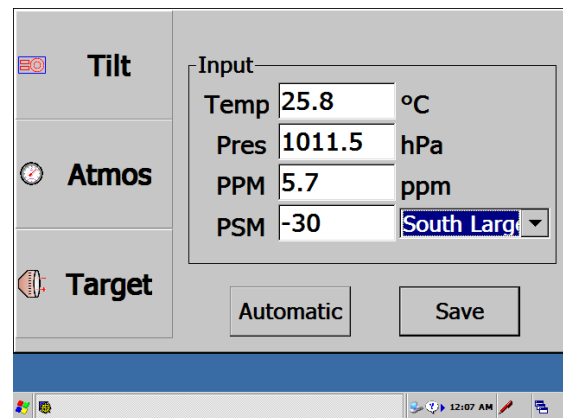


2.1 Leveling:

Turn **ON/OFF**, **2-axis**, **1-axis**, adjust the tribrach foot screws adjusting the **X** and **Y** value as close as 0 you can.

2.2 Atmos:

Setting the **temperature**, **Pressure** and **PPM**. You can manually input temperature or get the T-P sensor reading by pressing the Automatic button. Set the prism constant.



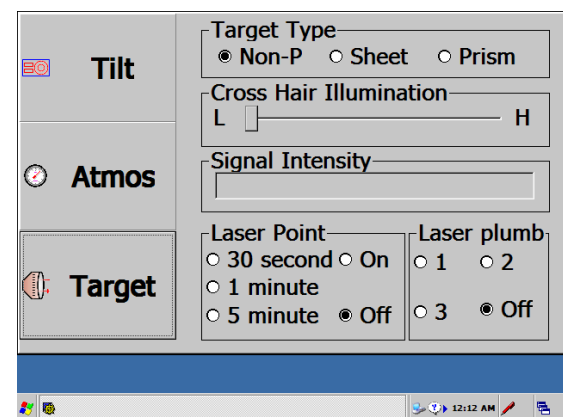
2.3 Target:

Target - choose Non-Prism, Prism or Sheet.

Cross Hair Illumination – adjust cross hair visibility.

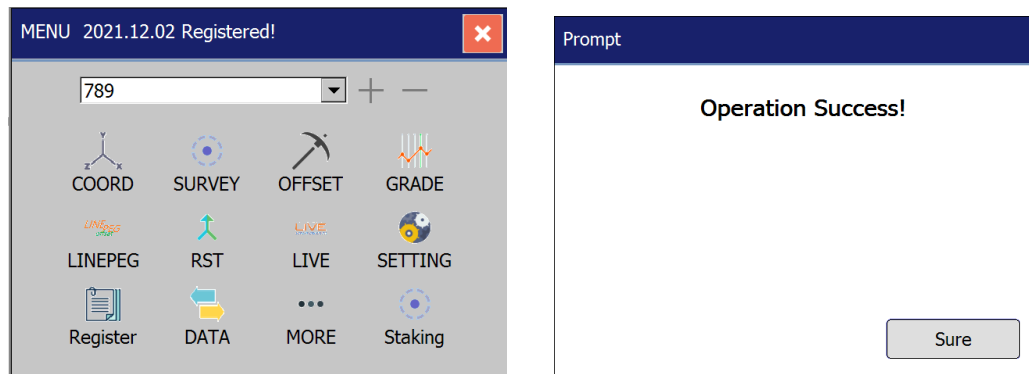
Laser Pointer – switch laser **on** or **off** or switch it on for a specific period after which it automatically switches off.

Laser plumb – set intensity of the down pointing laser or **switch it off**

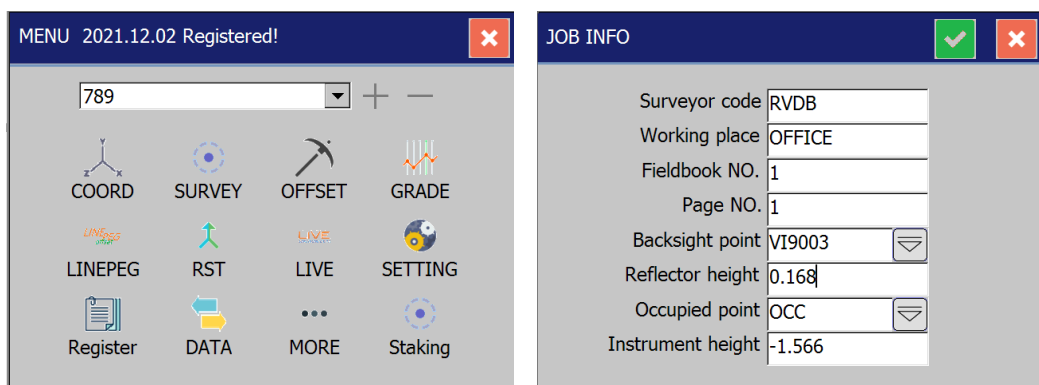


3. Jobs

To create a job or project, type the project name in blank space and press “**■**” to.



4. Survey a Peg

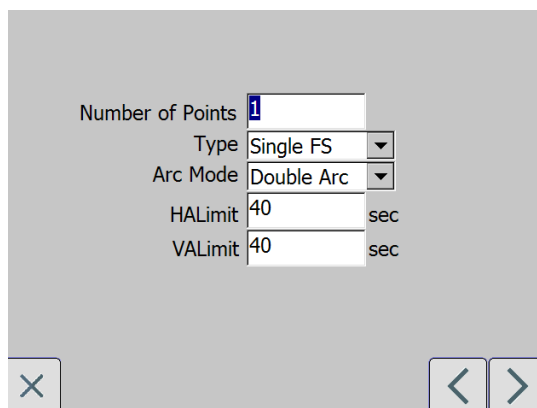


Press the **SURVEY** button on the main screen.

Input base information and select the **Back sight point** and **Occupied point**.

Points can be selected from a list of existing points or imported from internal memory.

Instrument height allows the user to input both *negative and positive* values.



After we setup station and back sight, we need to set **Number of Points**, **Type**, **Measurement mode**, **Horizontal and Vertical angle limitation**.

NB: Minimum number of points is 1 and maximum is 15.

Type : Single FS or Double FS.

Arc Mode: Single Arc or Double Arc

Grade

Degrees d,ms

Percentage %

Ratio 1: x

Negative

We can also input the Grade (*this will calculate the grade elevation for your new Fore sight peg*)

The user can input the Grade in one of 3 options:

Degrees, Percentage or Ratio


After you have completed all setup information, press the next button to start your survey.

BS Point Checking

	HA	VA	SD
VI90	264°04'45"	68°37'21"	2.585
Real:	19°17'21"	68°40'26"	
Diff:			

MEASURE NEXT

	HA	VA	SD
VI90	264°04'45"	65°14'21"	2.651
Real:	19°17'23"	68°40'22"	
Diff:			

Turn instrument to backsight and press the measure button  to set the correct Horizontal angle and display the SD

Note: the VA is displayed in green when the instrument is in the correct orientation, if the angle is displayed in red the telescope should be turned to the opposite face

	HA	VA	SD
VI90	264°04'45"	68°37'21"	2.585
Real:	19°17'21"	68°40'25"	2.591
Diff:	dHD = -0.006	dVD = 0.000	

This screen provides feedback on the quality of your setup:

dHD is the difference between observed and calculated HD – if the difference is in tolerance this value will be displayed in green color if error is outside of tolerance the value is displayed in red color.

dVD is the difference in Vertical between observed and calculated VD

Warning

dHD = 69.556 dVD = 1.488
accept?

Cancel

OK

If the error for dHD and or dVD exceeded the tolerance this warning will appear to let you know there might be a problem with the setup.

If you still want to continue you can press OK

Warning

Forced horizontal bearing to
45°00'00"

Cancel

OK

This message confirms that the Horizontal angle will be set to the angle calculated between the occupied point and the backsight point

FS NO.1/1 D1
Name VI002

HA	VA	SD	HD
A(D)			
ARe: 246°13'10" 70°41'18"			
ADi:			
DDi:			

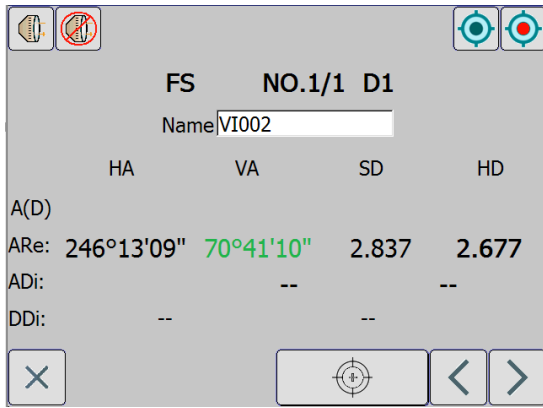
Navigation buttons: [Close], [Measure], [Previous], [Next]


Follow the prompts on the screen:


WinUG will guide you through the survey process
FS no1/1 D1: this means you should turn instrument to foresight observation first peg of two. D1 means this is the first Direct (Face 1) observation to this peg (TP1).

You should also give this peg a name. the name will auto increment for the next peg.

Press the measure button  to measure the SD

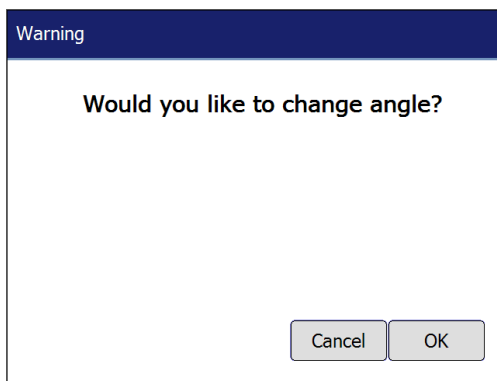


If there is a mistake in the angle or the distance displayed, make sure the target is in line with the crosshairs and press  again

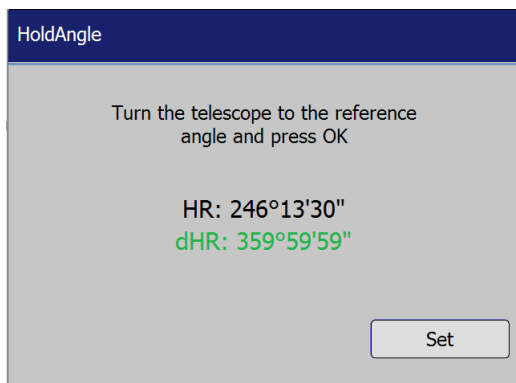
If you are happy with the angles and SD displayed press  to continue to the next observation

Baseplate change 1

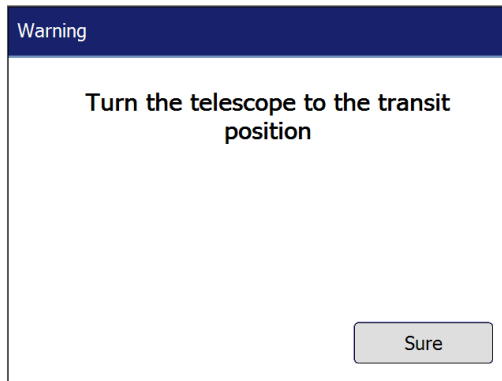
After we finish Direct (face 1) measurement, we have the possibility to change the horizontal angle (Base Plate Change). Baseplate changes are optional.



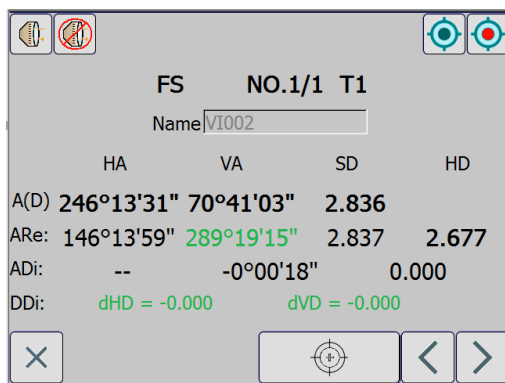
Click okay to agree to a baseplate change or Cancel if you don't want to do a baseplate change



Turn your instrument to a reference angle (90°), lock wait for horizontal angle to settle and then press **Set**.

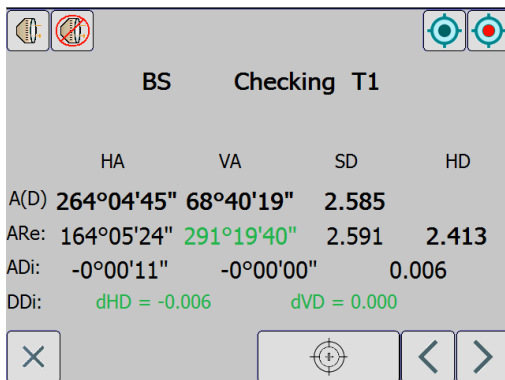


Turn telescope to transit position and click on **Sure**.



Observe foresight peg in transit and measure.

Once you have measured click next.



Observe you backsight peg in transit 1 and measure.

The instrument will prompt you to do another baseplate change. Proceed as per the steps above.

FS NO.1/1 T2				BS Checking T2					
Name: VI002									
HA	VA	SD	HD	HA	VA	SD	HD		
A(D)	246°13'38"	70°40'51"	2.836	A(D)	264°04'45"	68°40'19"	2.585		
ARe:	335°00'52"	289°19'13"	2.836	2.676	ARe:	352°52'03"	291°19'36"	2.591	2.413
ADi:	--	-0°00'04"	-0.000	ADi:	0°00'03"	0°00'03"	0.006		
DDi:	dHD = 0.000		dVD = 0.000	DDi:	dHD = -0.006		dVD = 0.000		

After completing all observations one of the following two screens will be displayed;
 If it is Green you are within your limits and the quality is good.
 If it is orange you have exceeded your limits and the accuracy is poor. You can select the poor points to save anyway or if you don't select them they will be deleted
 To accept your peg you must click on the tick box, input reflector (bob) height, peg to rail and click on **Save Selected**.

VI002
 HA:9,LIMIT:40 VA:11,LIMIT:40

PEG to rail

Reft.ht

VI002B
 HA:237,LIMIT:40 VA:1531,LIMIT:40

PEG to rail

Reft.ht

5. OFFSET

Step one is to set up the station, it will reuse the previous station point and back sight point information, if you need to change, please input the updated info and do backsight check again.

JOB INFO		Backsight Point			
Surveyor code	RVDB	HA	VA	SD	
Working place	OFFICE	Bear(BS):	262°40'13"	68°57'02"	2.554
Fieldbook NO.	1	Bear(Real):	168°16'01"	69°00'28"	2.559
Page NO.	1	Diff(Dist):	dHD = -0.006	dVD = 0.001	
Backsight point	VI9003				
Reflector height	0.168				
Occupied point	STATION				
Instrument height	-1.593				

Offset NO.2		
Name	Offset2	
Ref H1	0	
Code		
<input type="checkbox"/> Offset R	0	
<input type="checkbox"/> Offset L	0	
HA	VA	SD
BS: 262°40'13"	68°57'02"	2.554
Real: 272°10'57"	89°49'56"	2.356

After station setup. We start offset measurement.

You can change the name of your offset


Press measure button to get result and press next to save and go to the next offset point.

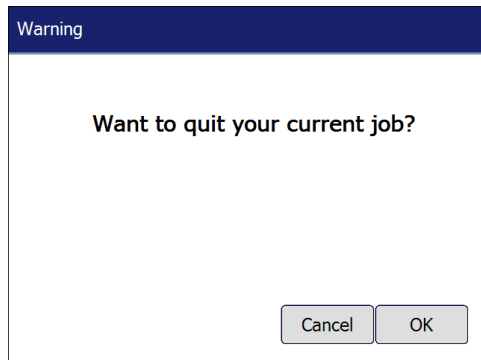
Cubby offsetting

To offset a cubby, choose the direction to offset by either clicking **Offset R** or **Offset L** (direction from surveyors' perspective), then input offset value.

Please note it will only allow you to input a positive value.

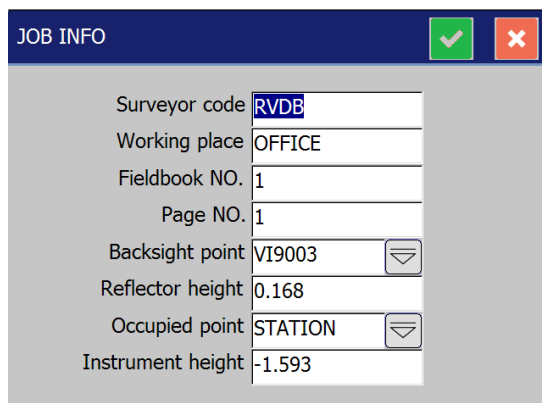
Offset NO.3		
Name	Offset3	
Ref H1	0	
Code	CB	
<input checked="" type="checkbox"/> Offset R	2	
<input type="checkbox"/> Offset L	0	
HA	VA	SD
BS: 262°40'13"	68°57'02"	2.554
Real: 275°53'42"	89°49'54"	2.550

Press  to end the process and return to the main menu.



6. Grade

Step one is to set up the station, it will reuse the previous station point and back sight point information, if you need to change, please input the updated info and do backsight check again.



JOB INFO

Surveyor code: RVDB

Working place: OFFICE

Fieldbook NO.: 1

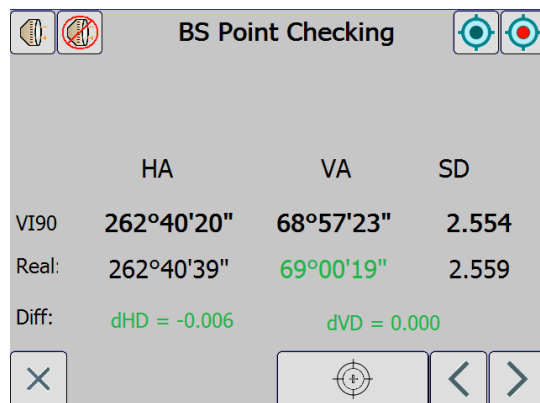
Page NO.: 1

Backsight point: VI9003

Reflector height: 0.168

Occupied point: STATION

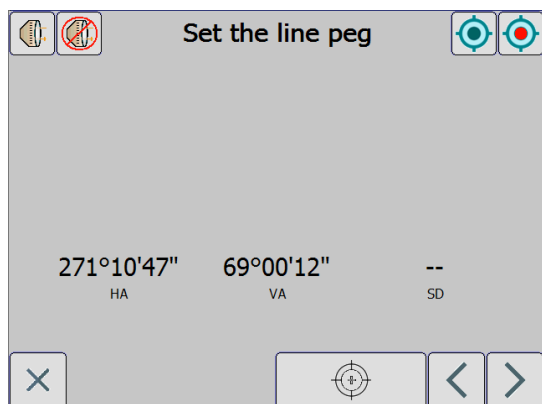
Instrument height: -1.593



BS Point Checking

	HA	VA	SD
VI90	262°40'20"	68°57'23"	2.554
Real:	262°40'39"	69°00'19"	2.559
Diff:	dHD = -0.006	dVD = 0.000	

Buttons: Close, Center, Left, Right



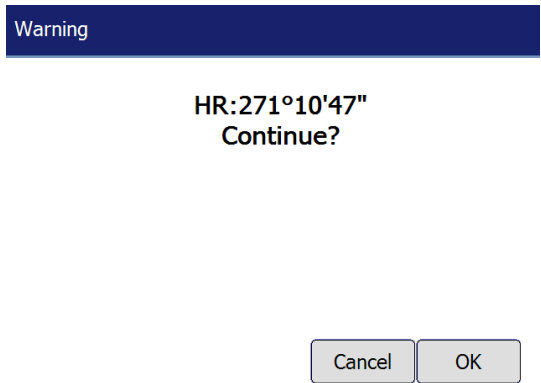
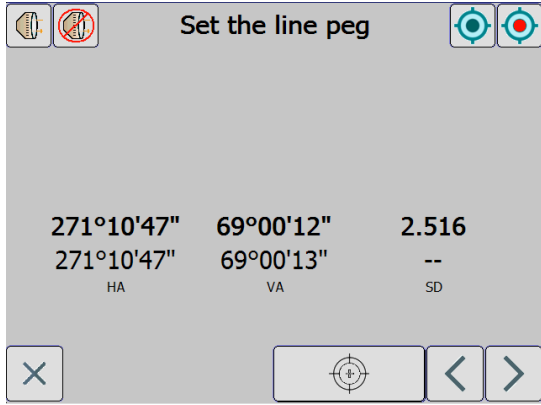
Set the line peg

271°10'47" 69°00'12" --

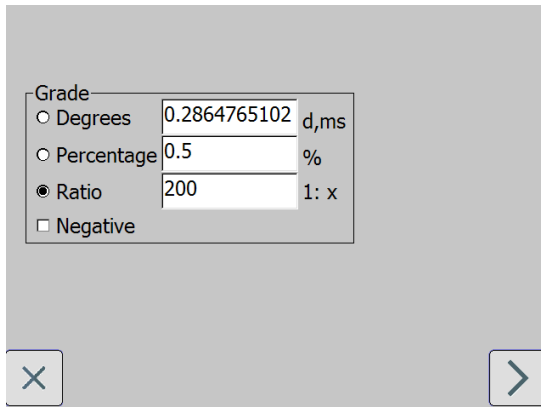
HA VA SD

Buttons: Close, Center, Left, Right

Sight the line peg or the direction of development. This is the direction in which the grade will be carried forward

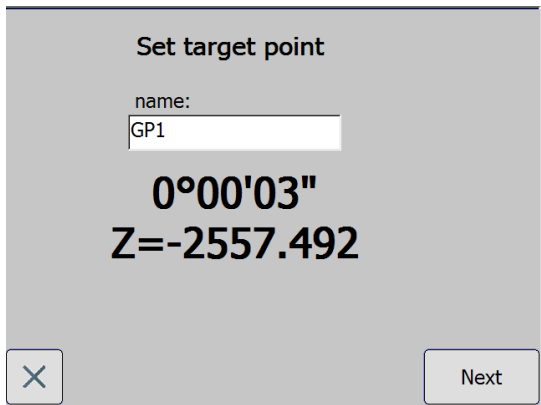


Direction in which grade will be installed is displayed press OK if the direction is correct.



The slope of the grade pegs can now be defined. It can be input either Degrees, Percentage or a Ratio.

If the slope needs to go downhill also select the negative tick box



Input the name of the grade-peg to be installed
Turn the instrument to a position on the sidewall where you would like to install the grade peg and adjust the Telescope up or down until the reading on the screen display Zero – this is the position you should install your grade peg.

Press next and turn the instrument to where you would like to install the next Grade Peg

Set target point

name:

0°00'01"
Z=-2557.494

Warning

Want to quit your current job?

7. LIVE

The live mode is only for simple measurement of angle and distance, it can't be saved in memory

Press ESC to end this process and back to main menu.

Backsight Point Checking

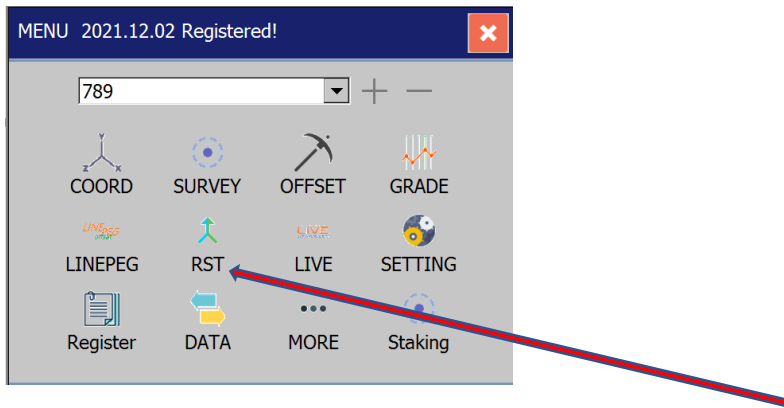
	HA	VA	SD
BS3:	45°00'00"	89°16'19"	6.690
Real:	44°59'55"	89°16'23"	6.692
Diff:	dHD = -0.002	dVD = 0.000	

109°08'32"
Horizontal angle

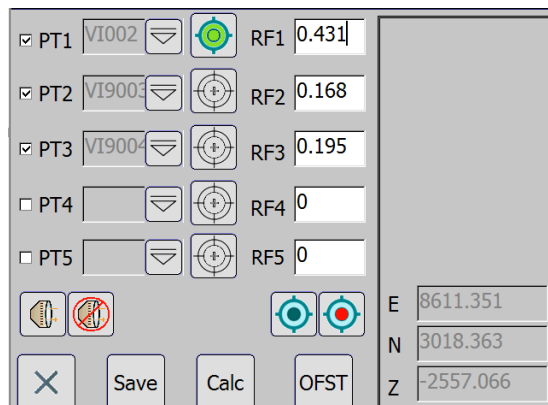
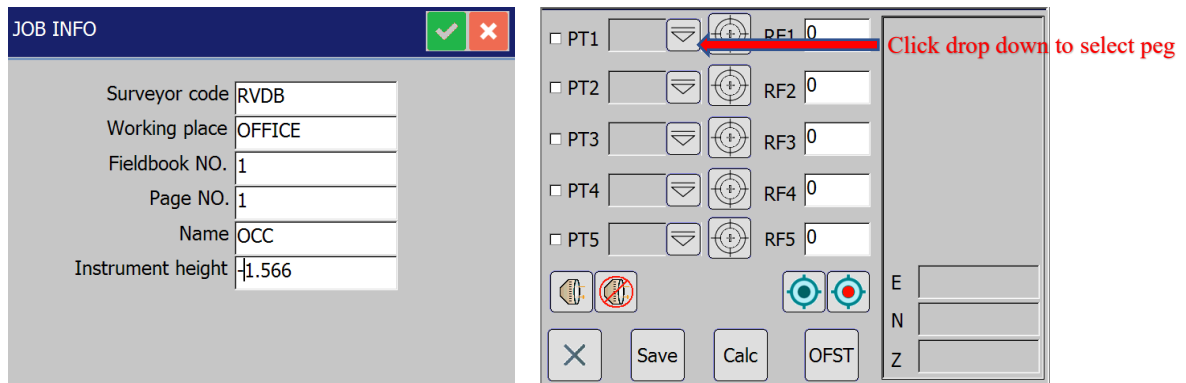
88°53'22"
Vertical angle

3.469 <small>Slant distance</small>	3.468 <small>Horizontal distance</small>	0.067 <small>Vertical distance</small>
0.000 <small>North</small>	0.000 <small>East</small>	0.000 <small>Zenith</small>

8. Resection



To get the station point from two or more known points select RST from main menu to do a resection. Pick up the reference point from memory or import from SD card. Observe the reference point and press measure button.



Points that have been measured will have a checked tick box and the measure button will turn green.

After that, you can pick up the check box which reference points you want to involve in the calculation.

<input checked="" type="checkbox"/> PT1	VI002		RF1	0.431	VI002:0.0019 VI9003:0.0046 VI9004:0.0021	<input checked="" type="checkbox"/> PT1	VI002		RF1	0.431	VI002:0.0029 VI9004:0.0026
<input checked="" type="checkbox"/> PT2	VI9003		RF2	0.168		<input checked="" type="checkbox"/> PT2	VI9003		RF2	0.168	
<input checked="" type="checkbox"/> PT3	VI9004		RF3	0.195		<input checked="" type="checkbox"/> PT3	VI9004		RF3	0.195	
<input type="checkbox"/> PT4			RF4	0		<input type="checkbox"/> PT4			RF4	0	
<input type="checkbox"/> PT5			RF5	0		<input type="checkbox"/> PT5			RF5	0	
					E 8613.659 N 3017.706 Z -2556.496						E 8613.658 N 3017.705 Z -2556.496
<input type="button" value="X"/> <input type="button" value="Save"/> <input type="button" value="Calc"/> <input type="button" value="OFST"/>						<input type="button" value="X"/> <input type="button" value="Save"/> <input type="button" value="Calc"/> <input type="button" value="OFST"/>					

If the accuracy is not good enough, Change the reference points by unticking and ticking the checkboxes and recalculate or redo the measurements.
 If you are satisfied with the accuracy, Press SAVE button.

9. LinePeg

Station setup by measuring your backsight.

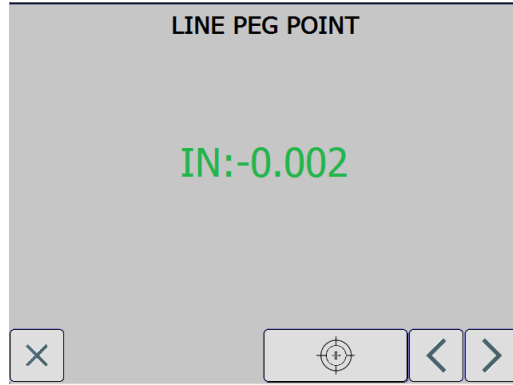
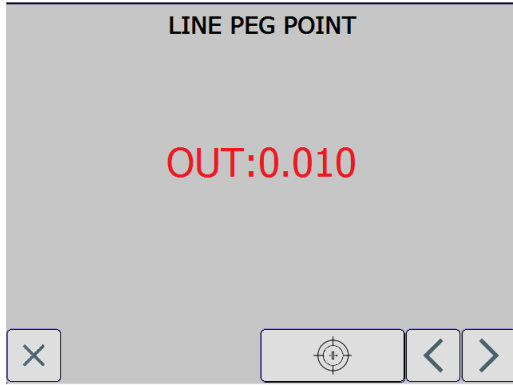
JOB INFO			
Surveyor code	RVDB		
Working place	OFFICE		
Fieldbook NO.	1		
Page NO.	1		
Backsight point	VI9003		
Reflector height	0.168		
Occupied point	STATION		
Instrument height	-1.593		

BS Point Checking					
	HA	VA	SD		
VI90	262°40'20"	68°57'23"	2.554		
Real:	262°40'19"	69°00'19"	2.559		
Diff:	dHD = -0.006	dVD = 0.000			
<input type="button" value="X"/>				<input type="button" value="Target"/> <input type="button" value="Left"/> <input type="button" value="Right"/>	

To define a line, you can do that by defining a start and end point or inputting a bearing.

NEW PEG			
StartPT		<input type="checkbox"/> Bearing / EndPT	
Name	VI9003	Name	VI9004
N	3017.401	N	3018.363
E	8611.294	E	8611.351
Z	-2557.004	Z	-2557.066
<input type="button" value="Target"/>		<input type="button" value="Target"/>	
EndPT			
<input type="button" value="X"/>		<input type="button" value="Left"/> <input type="button" value="Right"/>	

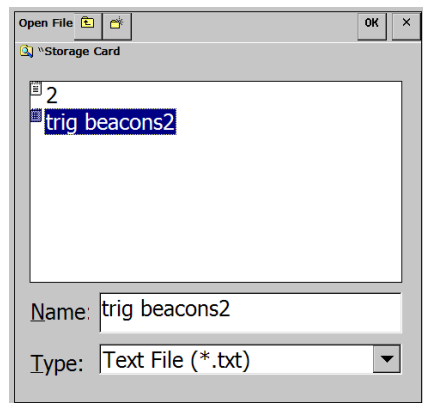
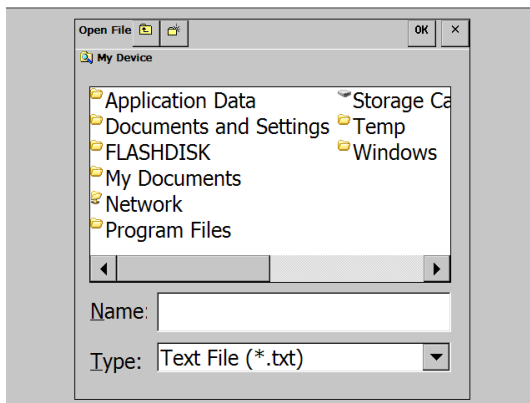
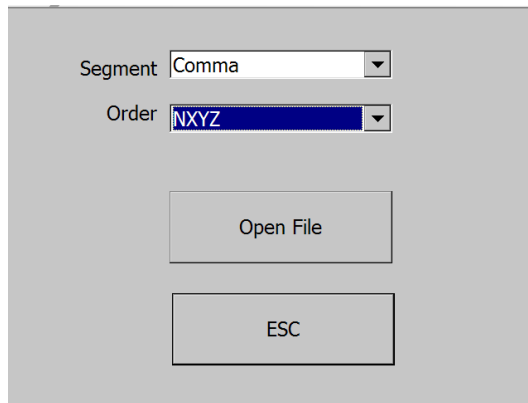
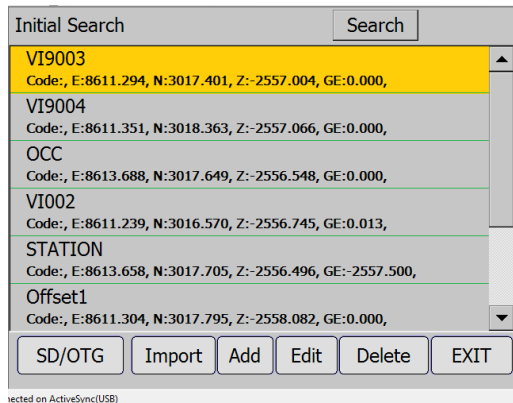
INPUT	
	3°23'27"
Input Bearing :	3.2327
Input Slope :	0
<input type="button" value="X"/>	
<input type="button" value="Left"/> <input type="button" value="Right"/>	



10. Import & Export

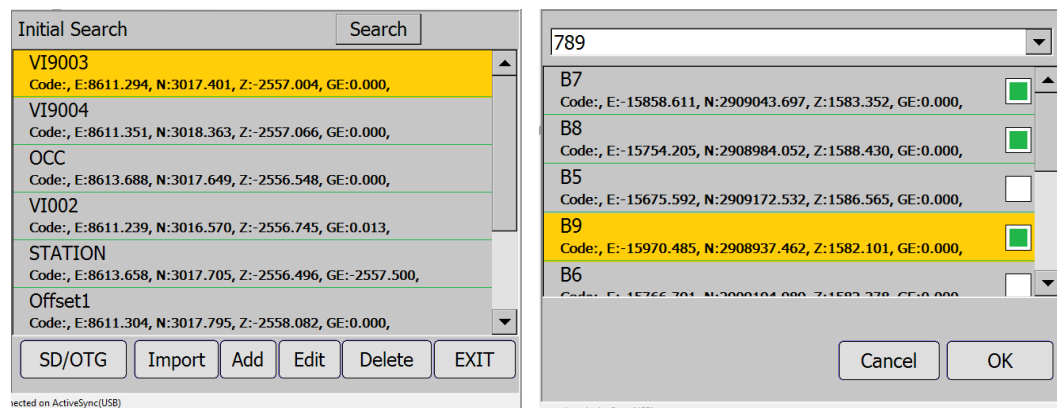
9.1 Import

DATA import in COORD submenu.

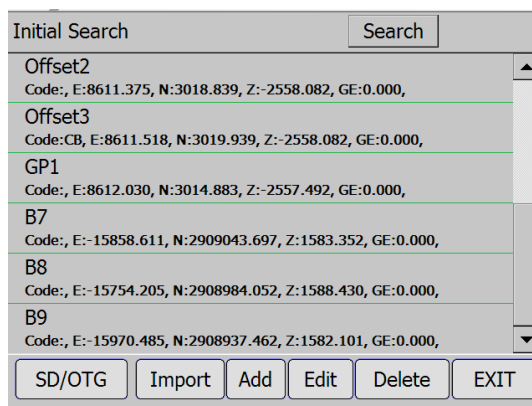


It can import coordinate data from other job, click the check box and import to existing

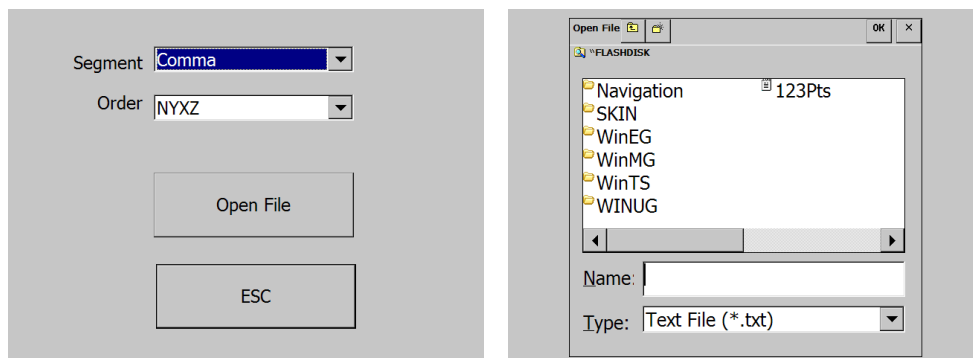
project.



Clik OK and the cordinates will be uploaded to your current job.

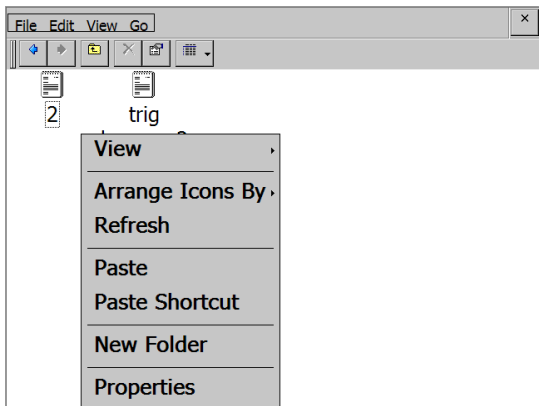
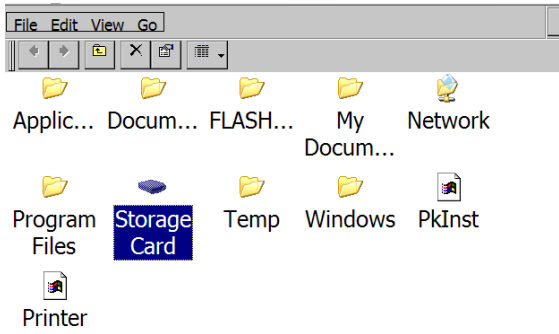
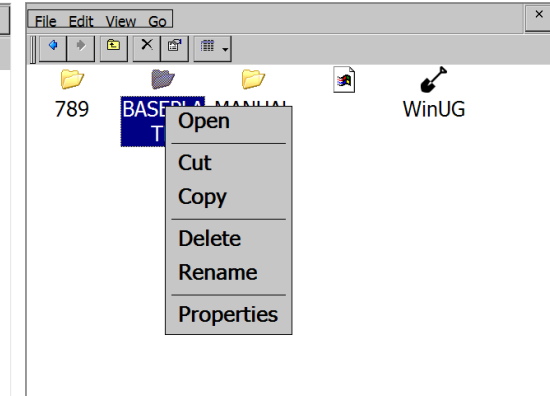
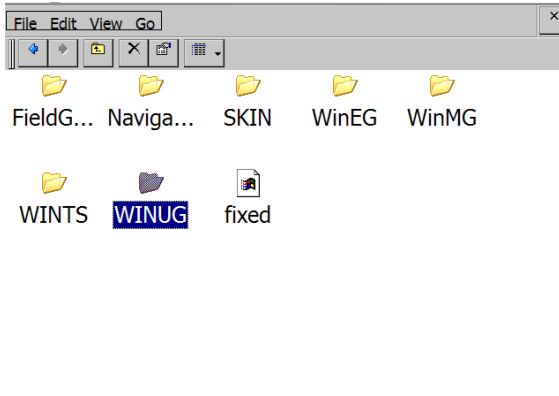
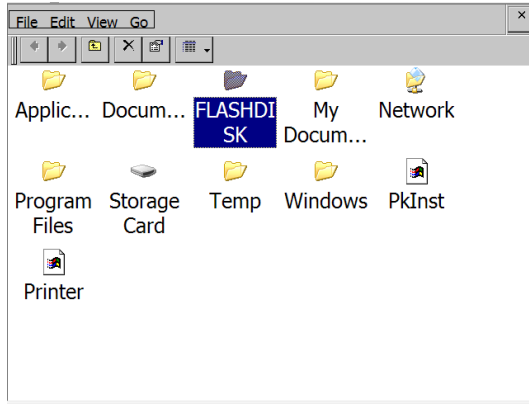
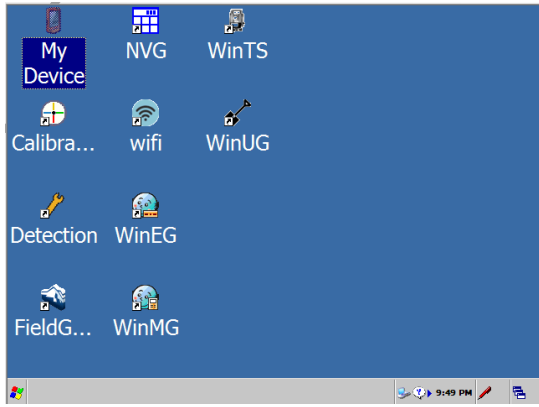


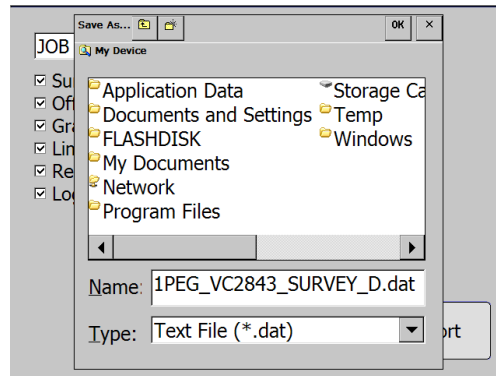
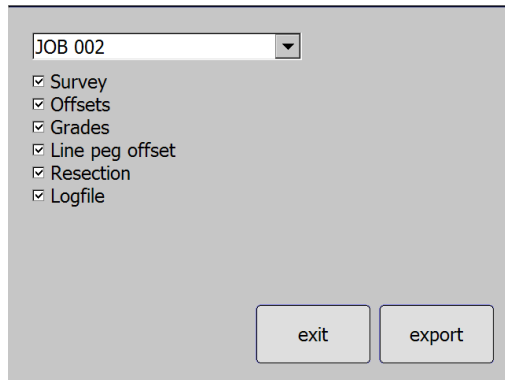
Also, it can import from SD card in TXT file.



9.2 Data export

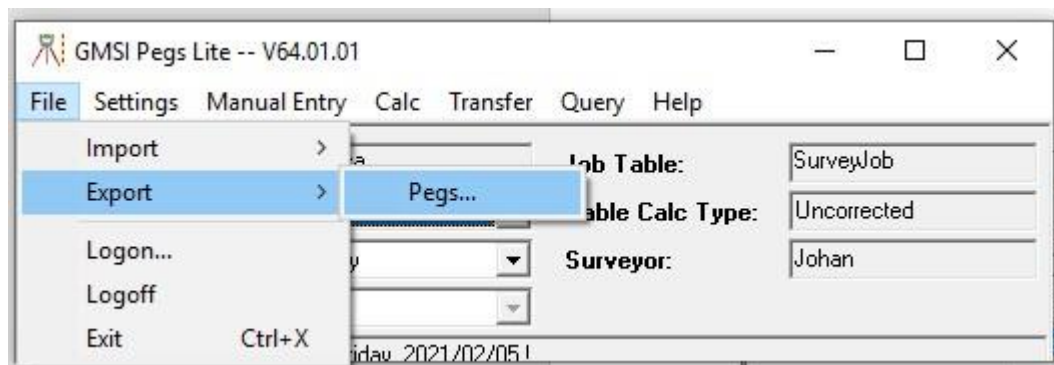
All data files are in installation path,
My device/Flashdisk/WINUG/, you can copy to SD card.





Pegs Lite to Total station via USB

Open Pegs Lite, File > Export > Pegs



Select Destination which is **File**

Change content to (**Peg x, y, z**)

Change format to (**Commas**)

Create Output (Pegs)

Destination

Printer
 File Append :
 Screen
 Instrument

Orientation

Portrait
 Landscape
 Paper:

Printer

Name:
 Font: Size:

Select Pegs

	From	To	?
Date :	<input type="text" value="2021/02/05"/>	<input type="text" value="2021/02/05"/>	<input type="checkbox"/>
Peg :	<input type="text"/>	<input type="text"/>	<input type="checkbox"/>
Surveyor :	<input type="text" value="Johan"/>		<input type="checkbox"/>
Sgl or Dbl Foresight :	<input type="checkbox"/>	Exceeds limits :	<input type="checkbox"/>

Content :

Coords only :
 Peg, x, y, z :
 Pegs & coords :
 Comprehensive :
 Full dump :
 Count pegs only :
 Instrument upload :

Format :

Header?
 Spaces :
 Commas :
 CSV :
 Dms angles?
 3dp coords...?

Source :

Permanent :
 Line Pegs :
 Perm & LP :
 Working :
 SQL Only :

Select criteria for list of Pegs

Click select twice to proceed to next screen

Add your peg and backsights and click OK when done.

Create Output (Pegs)

Destination

Printer

File Append :

Screen

Instrument

Orientation

Portrait

Landscape

Paper:

Printer

Name:

Font: Size:

Select Pegs

Source :

Permanent :

Line Pegs :

Perm & LP :

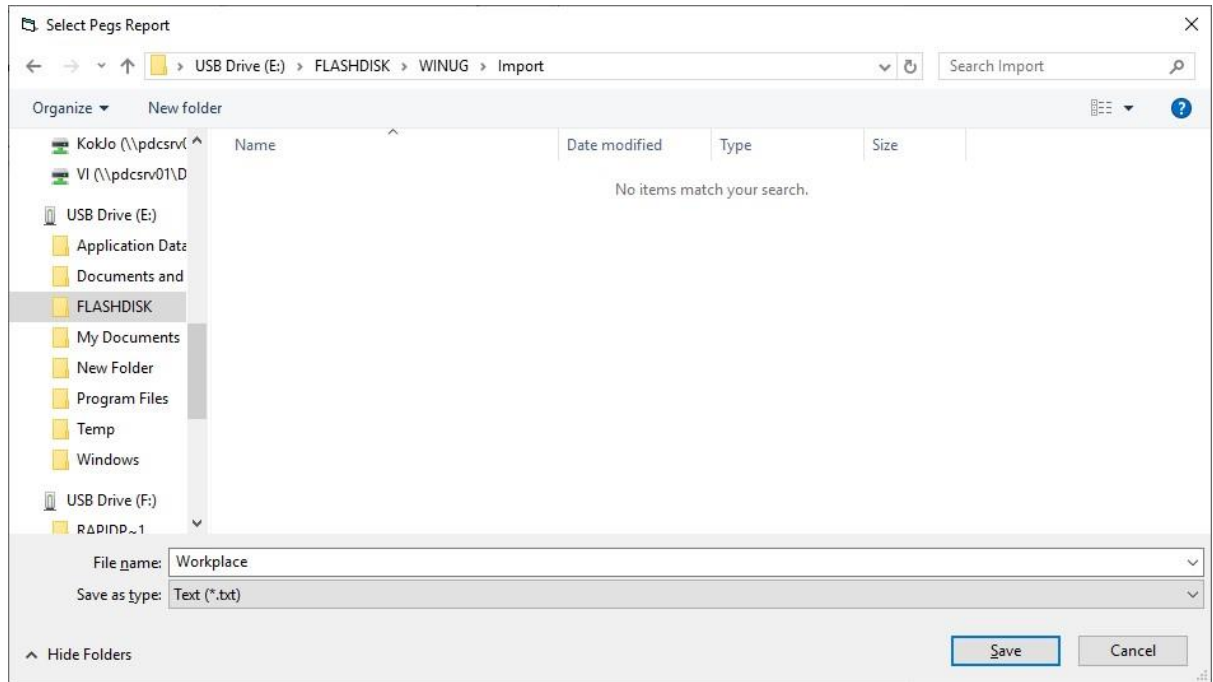
Working :

SQL Only :

Backsight found in Table Phakisa

To select the folder to save your coordinate file click on This PC > USB Drive > Flashdisk > WinUG > Import

Give file name at the bottom and also change Save as type to **Text (*.txt)** and click Save when you are done.



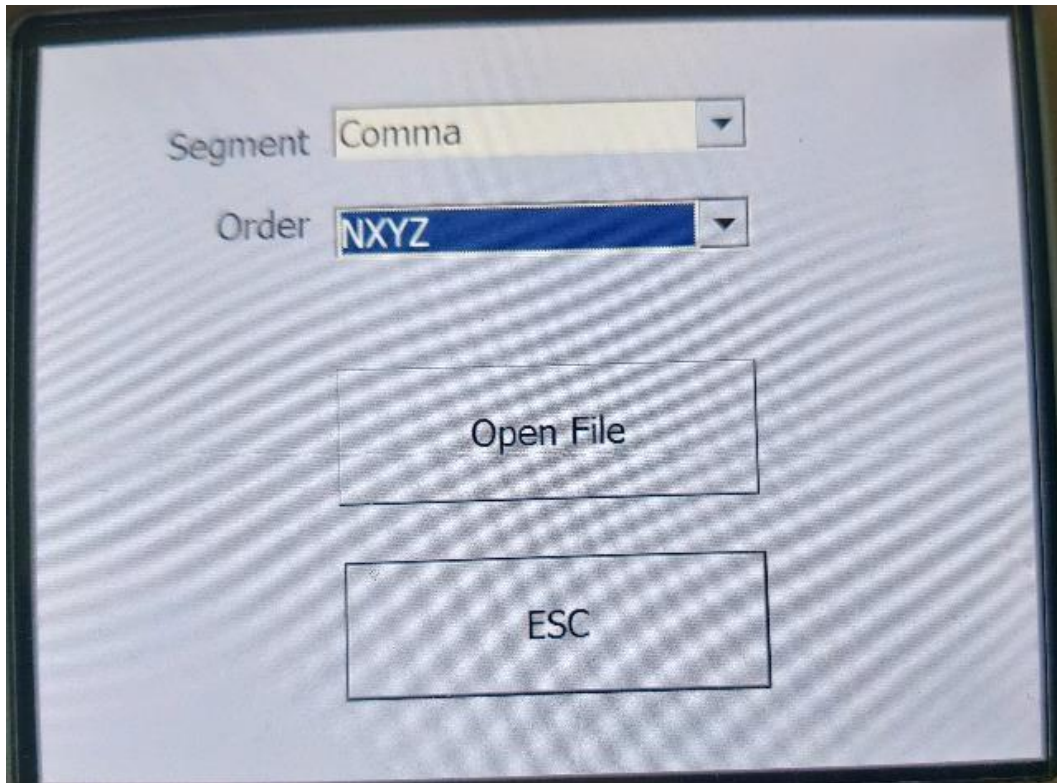
File should be output in the sequence below: check if you are not sure

Peg name,	X coordinate,	Y coordinate,	Elevation,	Grade Elevation
W0419,	3031.290,	8672.982,	-2556.957	0.000
W0426,	3021.193,	8690.431,	-2557.368	0.000
W0427,	3032.801,	8658.587,	-2556.662	0.000
W0448,	3016.710,	8616.682,	-2556.581	0.000

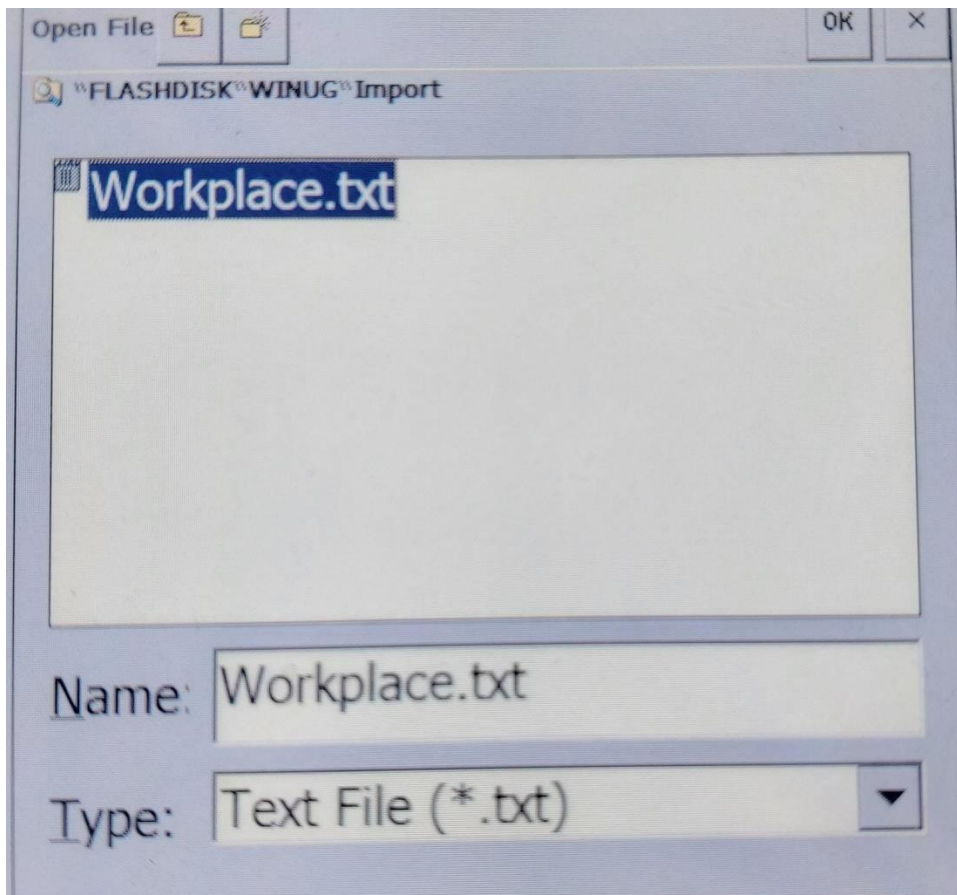
Once done sending the file to PC remove USB cable from Total station and switch off the total station.

Switch on total station and open Win UG

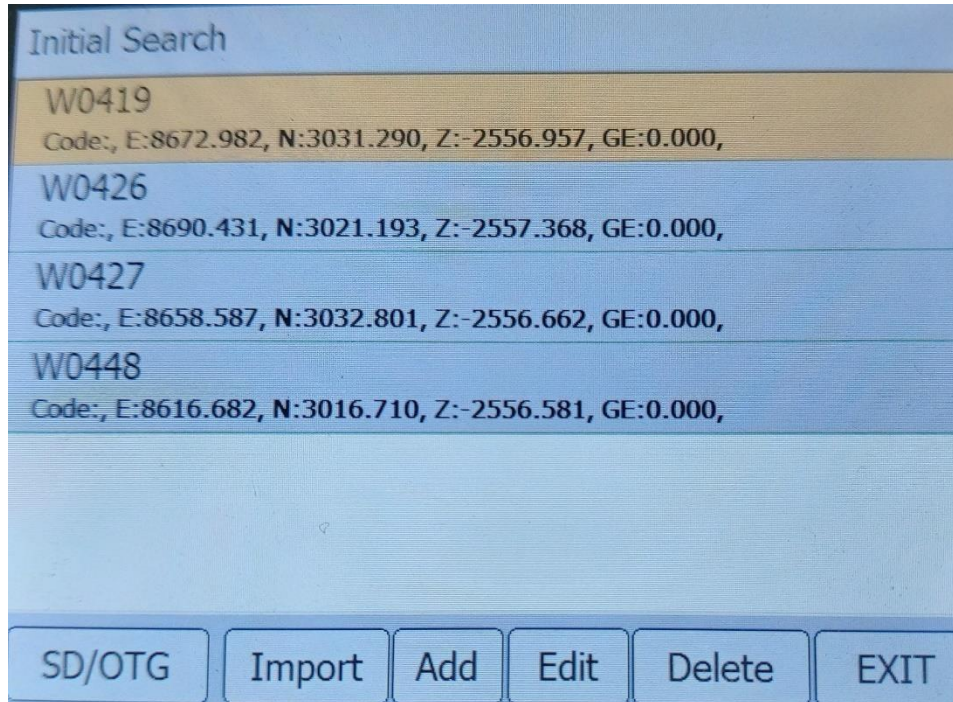
Create a job and once in the Job go to Coord > choose SD/OTG > Change order to **NYXZ** and click on Open File



Navigate to the folder with your file by clicking on Flashdisk > WinUG > Import then select your workplace file and press enter on the total station and your coordinates will be added to your job.



Back in the Job if you select Coord you will find all the coordinates that were in the uploaded file.



Downloading from Total station to PC via USB

Plug total station to PC via usb cable

Open Pegs lite > Click on File> Import> Import pegs> From Raw File>



Select the Browse option to search for your data

Pegs Import Defaults [Raw File]

Import Defaults

Date Surv.: 2021/02/05 Yes No

Surveyor: A.HAUPTFLEISCH Yes No

Field Book: Datalogger Yes No

Flid Bk Page: 1 Yes No

Environment: Basal Yes No

Shaft: PHAK Yes No

Add W'place: Yes No

Workplace: 0

Process Options

Import Offsets following Pegs Import?

Is it a Satellite Setup Survey (Offsets only)?

Instrument Options

Note: Settings are saved when [OK] is pressed. Restore:

Port: 3 Settings: 9600,n,8,1

Instrument: Topcon

Raw file: C:\Users\kokjo\Desktop\LC_SURVEY

Job Name: 1

To navigate to the folder with your Survey data click on This PC > USB Drive > Flashdisk > WinUG > New Job > Survey and select the raw data file (_R.dat) and click open

